

IN THE CLAIMS:

The claims as presented by the present response are set out below. To that end, please cancel claims 10-11, 28-33 and 45-47 without prejudice and/or disclaimer of subject matter. Please amend claims 1, 6, 12, 17, 23, 34 and 40.

1. (Twice amended) ~~An apparatus~~ Apparatus for selectively expressing one or more selected fluid materials out of a fluid container, wherein each of the selected fluid materials has a selected density and wherein the fluid container comprises a round enclosure having a flexible wall and an exit port sealably communicating with the fluid container for enabling the selected fluid materials contained therein to be expressed out of the fluid container through the exit port, the apparatus comprising:

a centrifuge rotor having a round centrifuge chamber of selected volume and a channel ~~provided on a wall of the chamber extending from a central axis and ending adjacent a circumference of the rotor provided thereon for directing an expressor fluid from a central axis toward a circumference of the rotor~~, wherein the centrifuge rotor being controllably rotatable around the central axis by a motor mechanism;

a round expandable enclosure disposed within the centrifuge chamber having a rotation axis coincident with the central rotation axis and a flexible wall, the fluid container having a rotation axis and being coaxially receivable within the centrifuge chamber, the expandable enclosure being sealably connected to a source of an expressor fluid which has a density selected to be greater than the density of each of the selected one or more fluid materials disposed in the fluid container;

a pump for controllably pumping a selected volume of the expressor fluid into and out of the expandable enclosure wherein the fluid container is receivable within the centrifuge chamber; and

a retaining mechanism for holding the fluid container within the centrifuge chamber in a coaxial position wherein the flexible wall of the fluid container is in

contact with the flexible wall of the expandable enclosure.

2. (Original) The apparatus of claim 1 wherein the expandable enclosure comprises a flexible membrane sealably attached to a surface of the rotor such that the centrifuge chamber is divided into a first chamber for receiving the fluid container and a second fluid sealed chamber for receiving the expresser fluid.
3. (Original) The apparatus of claim 1 wherein the flexible wall of the expandable enclosure comprises an elastomeric sheet material.
4. (Original) The apparatus of claim 1 further comprising a heater mechanism having a control mechanism for selectively controlling the temperature of the expresser fluid.
5. (Original) The apparatus of claim 1 wherein the fluid container has a first radius and the second fluid sealed chamber has a second radius which is at least equal to the first radius of the fluid container, wherein the expresser fluid pumped into the second fluid sealed chamber travels to a circumferential position within the second fluid sealed chamber which is more radially outward from the central axis than a circumferential position to which the one or more selected fluid materials in the fluid container travel when the rotor is drivably rotated around the central axis.
6. (Twice Amended) ~~An apparatus~~ ~~Apparatus~~ for selectively expressing one or more selected fluid materials out of a fluid container, wherein each of the selected fluid materials has a selected density and wherein the fluid container comprises a round enclosure having a rotation axis, a flexible wall and an exit port sealably communicating with the container for enabling the selected fluid materials contained therein to be expressed out of the container through the exit port, the apparatus comprising:

a centrifuge rotor having a round centrifuge chamber and a channel provided on a wall of the chamber extending from a central axis and ending adjacent a circumference of the chamber, the centrifuge rotor being controllably rotatable around a central axis by a motor mechanism;

a flexible membrane sealable attached to a surface of the rotor such that the centrifuge chamber is divided into a first chamber for receiving the fluid container coaxially with the central rotation axis and a second round fluid sealed chamber having a rotation axis coincident with the central axis for receiving an expresser fluid, wherein the expresser fluid has a density selected to be greater than the density of each of the selected one or more fluid materials disposed in the container;

a pump for controllably pumping a selected volume of the expresser fluid into and out of the second fluid sealed centrifuge chamber; and

a retaining mechanism for holding the container within the first chamber in a position wherein the flexible wall of the container is in contact with an outside surface of the flexible membrane.

7. (Original) The apparatus of claim 6 wherein the flexible membrane comprises an elastomeric sheet material.
8. (Original) The apparatus of claim 6 further comprising a heater mechanism having a control mechanism for selectively controlling the temperature of the expresser fluid.
9. (Original) The apparatus of claim 6 wherein the fluid container has a first radius and the second fluid sealed chamber has a second radius which is at least equal to the first radius of the fluid container, wherein the expresser fluid pumped into the second fluid sealed chamber travels to a circumferential position within the second fluid sealed chamber which is more radially outward from the central axis than a circumferential position to which the one or more selected fluid materials in the fluid container travel when the rotor is drivably rotated around the central axis.
10. Cancelled.
11. Cancelled.
12. (Twice Amended) Apparatus for selectively expressing one or more selected fluid

materials out of a fluid container, wherein each of the selected fluid materials has a selected density and wherein the fluid container comprises a round enclosure having a flexible wall and an exit port sealably communicating with the fluid container for enabling the selected fluid materials contained therein to be expressed out of the fluid container through the exit port, the apparatus comprising:

a separation housing having a round chamber of selected volume, the housing having a central axis and the round chamber including a wall having a channel positioned thereon ~~extending from the central axis and ending adjacent a circumference of the round chamber for directing an expressor fluid from the central axis toward a circumference of the round chamber;~~

a round expandable enclosure disposed within the round chamber having an axis coincident with the central axis of the separation chamber and a flexible wall, the fluid container having an axis and being coaxially receivable within the round chamber, the expandable enclosure being sealably connected to a source of an expressor fluid which has a density selected to be greater than the density of each of the selected one or more fluid materials disposed in the fluid container;

a pump for controllably pumping a selected volume of the expressor fluid into and out of the expandable enclosure wherein the fluid container is receivable within the round chamber; and

a retaining mechanism for holding the fluid container within the round chamber in a coaxial position wherein the flexible wall of the fluid container is in contact with the flexible wall of the expandable enclosure.

13. (Original) The apparatus of claim 12 wherein the expandable enclosure comprises a flexible membrane sealably to a surface of the separation housing such that the round chamber is divided into a first chamber for receiving the fluid container and a second fluid sealed chamber for receiving the expressor fluid.
14. (Original) The apparatus of claim 12 wherein the flexible wall of the expandable

enclosure comprises an elastomeric sheet material.

15. (Original) The apparatus of claim 12 wherein the fluid container has a first radius and the expandable enclosure has a second radius which is at least equal to the first radius of the fluid container.
16. (Original) The apparatus of claim 12 further comprising a heater mechanism having a control mechanism for selectively controlling the temperature of the expresser fluid.
17. (Twice Amended) ~~An apparatus~~ ~~Apparatus~~ for selectively expressing one or more selected fluid materials out of a fluid container, wherein each of the selected fluid materials has a selected density and wherein the fluid container comprises a round enclosure having a flexible wall and an exit port sealably communicating with the fluid container for enabling the selected fluid materials contained therein to be expressed out of the fluid container through the exit port, the apparatus comprising:

a centrifuge rotor having a round centrifuge chamber of selected volume ~~and having a channel positioned on a wall of the chamber extending from a central axis and ending adjacent a circumference of the chamber~~, the centrifuge rotor being controllably rotatable around a central axis by a motor mechanism;

a round expandable enclosure disposed within the centrifuge chamber having a rotation axis coincident with the central rotation axis and a flexible wall, the fluid container having a rotation axis and being coaxially receivable with the centrifuge chamber, the expandable enclosure being sealably connected to a source of an expresser fluid;

a pump for controllably pumping a selected volume of the expresser fluid into an out of the expandable enclosure;

wherein the fluid container has a flexible wall and is receivable within the centrifuge chamber such that the flexible wall of the fluid container faces the flexible wall of the expandable enclosure;

a mechanism for filling the fluid container with any preselected variable volume of the one or more selected fluid materials which is less than the selected volume of the centrifuge chamber; and

a retaining mechanism for holding the fluid container completely within the centrifuge chamber upon expansion of the expandable enclosure.

18. (Original) The apparatus of claim 17 wherein the expandable enclosure comprises a flexible membrane sealably attached to a surface of the rotor such that the centrifuge chamber is divided into a first chamber for receiving the fluid container and a second fluid sealed chamber for receiving the expresser fluid.
19. (Original) The apparatus of claim 17 wherein the flexible wall of the expandable enclosure comprises an elastomeric sheet material.
20. (Original) The apparatus of claim 17 wherein the expresser fluid has a density selected to be greater than the density of each of the selected one or more fluid materials disposed in the fluid container.
21. (Original) The apparatus of claim 17 wherein the fluid container has a first radius and the expandable enclosure has a second radius which is at least equal to the first radius of the fluid container, wherein the expresser fluid pumped into the expandable enclosure travels to a circumferential position within the expandable enclosure which is more radially outward from the central axis than a circumferential position to which the one or more selected fluid materials in the fluid container travel when the rotor is drivably rotated around the central axis.
22. (Original) The apparatus of claim 17 further comprising a heater mechanism having a control mechanism for selectively controlling the temperature of the expresser fluid.
23. (Twice Amended) Apparatus for selectively expressing one or more selected fluid materials out of a fluid container, wherein each of the selected fluid materials has a selected density and wherein the fluid container comprises a round enclosure having a

rotation axis, a flexible wall and an exit port sealably communicating with the container for enabling the selected fluid materials contained therein to be expressed out of the container through the exit port, the apparatus comprising:

a centrifuge rotor having a round centrifuge chamber of selected volume and a channel provided thereon, ~~wherein the channel extends from a central axis and ends adjacent a circumference of the rotor and for directing an expressor fluid from a central axis toward a circumference of the rotor,~~ wherein the centrifuge rotor is ~~being~~ controllably rotatable around the central axis by a motor mechanism;

a flexible membrane sealably attached to a surface of the rotor such that the centrifuge chamber is divided into a first chamber for receiving the fluid container coaxially with the central rotation axis and a second round fluid sealed chamber having a rotation axis coincident with the central axis for receiving ~~the~~ [an] expressor fluid;

a pump for controllably pumping a selected volume of the expressor fluid into and out of the second fluid sealed centrifuge chamber, ~~wherein the fluid container has a flexible wall and is receivable within the centrifuge chamber such that the flexible wall of the fluid container faces the flexible wall of the expandable enclosure;~~

a mechanism for filling the fluid container with any preselected variable volume of the one more selected fluid materials which is less than the selected volume of the centrifuge chamber; ~~and~~

a retaining mechanism for holding the fluid container completely within the centrifuge chamber upon expansion of the expandable enclosure.

24. (Original) The apparatus of claim 23 wherein the flexible membrane comprises an elastomeric sheet material.
25. (Original) The apparatus of claim 23 wherein the expressor fluid has a density selected to be greater than the density of each of the selected one or more fluid materials disposed in the fluid container.

26. (Original) The apparatus of claim 23 wherein the fluid container has a first radius and the second fluid sealed chamber has a second radius which is at least equal to the first radius of the fluid container, wherein the expresser fluid pumped into the second fluid sealed chamber travels to a circumferential position within the second fluid sealed chamber which is more radially outward from the central axis than a circumferential position to which the one or more selected fluid materials in the fluid container travel when the rotor is drivably rotated around the central axis.
27. The apparatus of claim 23 further comprising a heater mechanism having a control mechanism for selectively controlling the temperature of the expresser fluid.
28. Cancelled.
29. Cancelled.
30. Cancelled.
31. Cancelled.
32. Cancelled.
33. Cancelled.
34. (Twice Amended) Apparatus for selectively expressing one or more selected fluid materials out of a fluid container, wherein each of the selected fluid materials has a selected density and wherein the fluid container comprises a round enclosure having a flexible wall and an exit port sealably communicating with the fluid container for enabling the selected fluid materials contained therein to be expressed out of the fluid container through the exit port, the apparatus comprising:

a centrifuge rotor having a round centrifuge chamber of selected volume and a channel provided thereon, wherein the channel extends from a central axis of the chamber and ends adjacent a circumference of the chamber and for directing an
~~expressor fluid from a central axis toward a circumference of the rotor, wherein the~~

centrifuge rotor is ~~being~~ controllably rotatable around the central axis by a motor mechanism;

a round expandable enclosure disposed within the centrifuge chamber having a rotation axis coincident with the central ~~rotation~~ axis and a flexible wall, the fluid container having a rotation axis and being coaxially receivable within the centrifuge chamber, the expandable enclosure being sealably connected to a source of ~~the~~ [an] expressor fluid;

a pump for controllably pumping a selected volume of the expressor fluid into and out of the expandable enclosure wherein the fluid container is receivable within the centrifuge chamber;

a heater mechanism having a control mechanism for selectively controlling the temperature of the expressor fluid; and

a retaining mechanism for holding the fluid container within the first chamber in a coaxial position wherein the flexible wall of the fluid container is in contact with the flexible wall of the fluid container.

35. (Original) The apparatus of claim 34 wherein the control mechanism includes a program for automatically controlling the temperature of the expressor fluid.
36. (Original) The apparatus of claim 34 wherein the expandable enclosure comprises a flexible membrane sealably attached to a surface of the rotor such that the centrifuge chamber is divided into a first chamber for receiving the fluid container and a second fluid sealed chamber for receiving the expressor fluid.
37. (Original) The apparatus of claim 34 wherein the flexible wall of the expandable enclosure comprises an elastomeric sheet material.
38. (Original) The apparatus of claim 34 wherein the expressor fluid has a density selected to be greater than the density of each of the selected one or more fluid materials

disposed in the container.

39. (Original) The apparatus of claim 34 wherein the fluid container has a first radius and the second fluid sealed chamber has a second radius which is at least equal to the first radius of the fluid container, wherein the expresser fluid pumped into the second fluid sealed chamber travels to a circumferential position within the second fluid sealed chamber which is more radially outward from the central axis than a circumferential position to which the one or more selected fluid materials in the fluid container travel when the rotor is drivably rotated around the central axis.
40. (Twice Amended) Apparatus for selectively expressing one or more selected fluid materials out of a fluid container, wherein each of the selected fluid materials has a selected density and wherein the fluid container comprises a round enclosure having a rotation axis, a flexible wall and an exit port sealably communicating with the container for enabling the selected fluid materials contained therein to be expressed out of the container through the exit port, the apparatus comprising:

a centrifuge rotor having a round centrifuge chamber of selected volume and a channel provided thereon, ~~wherein the channel extends from a central axis and ends adjacent a circumference of the rotor and for directing an expressor fluid from a central axis toward a circumference of the rotor,~~ wherein the centrifuge rotor is ~~being~~ controllably rotatable around the central axis by a motor mechanism;

a flexible membrane sealably attached to a surface of the rotor such that the centrifuge chamber is divided into a first chamber for receiving the fluid container coaxially with the central rotation axis and a second round fluid sealed chamber having a rotation axis coincident with the central axis for receiving an expressor fluid;

a pump for controllably pumping a selected volume of the expressor fluid into and out of the second fluid sealed centrifuge chamber;

a heater mechanism having a control mechanism for selectively controlling the temperature of the expressor fluid; ~~and~~

a retaining mechanism for holding the container within the first chamber in a position wherein the flexible wall of the container is in contact with an outside surface of the flexible membrane.

41. (Original) The apparatus of claim 40 wherein the control mechanism includes a program for automatically controlling the temperature of the expresser fluid.
42. (Original) The apparatus of claim 40 wherein the flexible membrane comprises an elastomeric sheet material.
43. (Original) The apparatus of claim 40 wherein the expresser fluid has a density selected to be greater than the density of each of the selected one or more fluid materials disposed in the container.
44. (Original) The apparatus of claim 40 wherein the fluid container has a first radius and the second fluid sealed chamber has a second radius which is at least equal to the first radius of the fluid container, wherein the expresser fluid pumped into the second fluid sealed chamber travels to a circumferential position within the second fluid sealed chamber which is more radially outward from the central axis than a circumferential position to which the one or more selected fluid materials in the fluid container travel when the rotor is drivably rotated around the central axis.
45. Cancelled.
46. Cancelled.
47. Cancelled.
48. (Original) Apparatus of claim 1 further comprising a temperature sensor connected to a program, wherein the temperature of the fluid materials is sensed by the temperature sensor, the program being connected to a temperature mechanism which controls the temperature of the expresser fluid.